



US006568620B1

(12) **United States Patent**  
**Lamprecht et al.**

(10) Patent No.: **US 6,568,620 B1**  
(45) Date of Patent: **May 27, 2003**

(54) **YARN FEEDER FOR TEXTILE MACHINES**

(75) Inventors: **Alfred Lamprecht, Betzweiler-Walde (DE); Hermann Schmödde, Horb-Deitlingen (DE); Eberhard Leins, Horb (DE)**

(73) Assignee: **Memminger-IRO GmbH (DE)**

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/786,709**

(22) PCT Filed: **Aug. 13, 1999**

(86) PCT No.: **PCT/DE99/02548**

§ 371 (c)(1),  
(2), (4) Date: **Mar. 7, 2001**

(87) PCT Pub. No.: **WO00/14002**

PCT Pub. Date: **Mar. 16, 2000**

(30) **Foreign Application Priority Data**

Sep. 7, 1998 (DE) ..... 198.40 727

(51) Int. Cl.<sup>7</sup> ..... **B65H 51/02; D04B 15/48**

(52) U.S. Cl. .... **242/366; 66/132 T**

(58) Field of Search ..... **242/366.1, 366, 242/365.6, 364.9, 364.2; 66/132 T, 132 R, 125 R**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

2,259,202 A \* 10/1941 Cooper ..... 242/366  
3,922,887 A \* 12/1975 Mishcon ..... 242/365.6  
3,957,217 A \* 5/1976 Clemens ..... 66/132 R  
4,180,215 A \* 12/1979 Nurk ..... 242/365.6  
4,271,687 A \* 6/1981 Memminger et al. .... 66/132 T  
4,574,597 A 3/1986 Buck et al.  
4,645,134 A \* 2/1987 Sarfati ..... 242/365.4

4,687,150 A 8/1987 Gutschmit  
4,793,565 A \* 12/1988 Fecker ..... 242/366  
4,918,948 A 4/1990 Nurk  
5,802,881 A 9/1998 Lin  
5,839,685 A 11/1998 Chen  
6,015,109 A \* 1/2000 Ohlson et al. .... 242/364.9  
6,149,092 A \* 11/2000 Chen ..... 242/366

**FOREIGN PATENT DOCUMENTS**

DE 3326099 2/1985  
DE 3516891 C 10/1986  
DE 3711558 C 6/1988  
DE 9215924 U 3/1993  
DE 4141712 A 6/1993  
DE 29616525 U 11/1996  
EP 0217373 A 4/1987  
EP 0568762 A 11/1993  
GB 2174727 A 11/1986

\* cited by examiner

Primary Examiner—Michael R. Mansen

(74) Attorney, Agent, or Firm—Leydig, Voit & Mayer, Ltd.

(57) **ABSTRACT**

A yarn feeder has a yarn feed wheel, which preferably comprises ceramic or is coated with a corresponding material. The yarn feed wheel, because of the choice of its material or its shaping, has improved long-term operation properties. The geometry and/or the material has low susceptibility to wear. This is attained by means of ceramic surfaces and/or the combination of a conical, continuous yarn inlet surface with adjoining striplike bearing faces in the yarn storage region and a continuous, that is, uninterrupted surface in the yarn payout region; the surfaces are shaped such that the yarn, along its way from the inlet region into the payout region, sweeps over the corresponding surfaces over the entire axial course. The striplike supporting or bearing of the yarn in the yarn storage region is attained by suitable shaping of the yarn feed wheel in the yarn storage region. Openings or slits or the like in the yarn feed wheel are not necessary but may be provided.

**17 Claims, 5 Drawing Sheets**

